Evaluation of Electric Distribution Utilities Compliance with Tier III Obligations

Tier III Report

Public Service Department

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Contents

Introduction

This report provides the results of the Department of Public Service's (Department or PSD) evaluation of the savings claims associated with Tier III of the Renewable Energy Standard (RES). This is the first such evaluation and, while the Department acknowledges that there are still some growing pains associated with the program, the results indicate that Vermont's electric distribution utilities (DUs) have done commendable work to develop programs that further Vermont's energy transformation and reduce fossil fuel consumption.

Section 8 of Public Act No. 56 of 2015 (Act 56) directed the Public Utilities Commission to implement the RES, by means of an "an order, to take effect on January 1, 2017". This requires Vermont DUs to acquire specified amounts of renewable energy, in the form of renewable attributes or Renewable Energy Credits (RECs), and to achieve fossil-fuel savings from energy transformation projects.

The structure of the RES is divided into three categories or tiers. The first tier (Tier I) requires DUs to procure an amount of renewable energy equivalent to 55% of their annual retail electric sales for the year 2017. This amount increases by 4% every third January 1 thereafter, eventually reaching 75% in 2032.[1]

The second tier (Tier II) requires DUs to procure an amount of renewable energy equivalent to 1% of their annual retail sales from distributed generation resources starting in 2017. This amount increases by three-fifths of a percent each year, eventually reaching 10% in 2032. Pursuant to Section 8005(a)(1)(C), Tier II resources are also counted as part of a DU's Tier I requirement.

The third tier of the RES (Tier III) requires that DUs either procure additional renewable distributed generation eligible for Tier II or acquire fossil-fuel savings from energy transformation projects. Energy transformation projects are those that reduce fossil fuel consumed by DU customers. For Tier III, the RES establishes a required amount of 2% of a DU's annual retail sales in 2017, increasing by two-thirds of a percent each year until reaching 12% in 2032. Energy Transformation projects implemented on or after January 1, 2015 are eligible to be counted towards a DUs Tier III obligation.

The PUC issued a final order on Docket No. 8550 titled "Order Implementing the Renewable Energy Standard" on 6/28/2016 (Docket 8550 Order). This order accepted the PSD proposal

[1] For municipal electric utilities serving less than 6,000 customers, the required amount is 2% of the providers' annual retail sales beginning January 1, 2019 increasing by two-thirds of a percent each year until reaching 10⅔% in 2032.

that the Department carry out evaluations to determine whether a DU was meeting its RES obligations. Additionally, the Order required DUs to "maintain in their files documentation of all assumptions and calculations used to establish their savings claims."[2]

Scope of Evaluation

This evaluation is based on a desk review of the DU Tier III activities. The PSD reviewed the savings claims and supplemental information provided to verify that savings values and calculations had been applied correctly, and to calculate evaluated savings that incorporate any necessary corrections. The evaluation did not include site visits to verify the installation or correct operation of products or to verify baseline conditions.

Prescriptive Measure Development

As established by the Docket 8550 Order, a Technical Advisory Group (TAG) was created with representatives from all the DUs impacted by Tier III requirements under the RES scope. The TAG sought to create a common approach to estimate savings for specific measures in order to create a unified and verifiable savings construct that all DUs could follow.

Evaluation Methodology

The majority of savings for most DUs come from large custom commercial projects which were reviewed on an individual basis. Most residential related savings are based upon a prescriptive methodology created in the TAG. The approach used for evaluating prescriptive savings is consistent with the verification process used to verify the Energy Efficiency Utilities' (EEUs) savings claims. The savings claimed for DU measures were compared to values generated through a review of the Technical Resource Manual (TRM) measures. These savings were further adjusted by each DU's Memorandum of Understanding (MOU) with Efficiency Vermont for those measures already offered by the EEU. The DUs each worked with Efficiency Vermont (EVT) to apportion savings between the entities for shared measures. In addition, savings were adjusted for the overall renewability percentage of each DU's power supply portfolio. For example if a DU's power supply portfolio is considered 100% renewable there was deemed to be no penalty for increased electrical usage. If a DU's power supply portfolio is considered 75% renewable than 25% of the additional electrical load is subtracted from the electrical savings generated by the Tier III measure.

[2] Docket 8550 Order at 32.

Through the TAG process the “Tier III Planning Tool” was created for prescriptive measures that could be customized to each DU’s specific renewability percentages and MOU with an EEU in order to determine with certainty the savings each measure installed would be worth in Tier III RECs. This tool was used by the PSD to confirm the accuracy of the calculations.

Where custom measures were deployed, most DUs included the PSD early in the review and pre-qualification phase of many of the projects. This allowed the PSD to recommend updates to the approaches and refinements of the datasets used to calculate the potential savings that were ultimately claimed for their 2017 Tier III activities. This allowed for a more rapid review of these measures as claimed by the DU.

As this is the first year of the Tier III program, documentation and reporting standards varied greatly. In this Report, the PSD provides a series of recommendations to make the reporting more uniform in nature to simplify reviews and improve comprehension of the measures implemented by the DU’s.

Summary of Results

Table 1 - Summary of Results

	Lifetime MWH Claimed	Percentage of Goal	Adjusted Lifetime MWH	Adjusted Percentage of Goal
GMP	131,736	156.83%	129,932	154.70%
BED	1,275	19.2%	1,275	19.2%
WEC	1,406	102.2%	826	60.0%
VEC	9,687	109.0%	9,763	109.9%

The above table provides a summary of the claimed MWh savings and the recommended adjustments made by the PSD to these savings. The following DU-specific sub-reports contain the adjustments and further information about the recommendations. Structural issues that have been identified should be addressed during the scheduled 2020 review or before.

Green Mountain Power

2017 Tier III Savings Verification Report

GMP's Tier III goal was set at 84,000 MWh based on the 4.2 terawatt hour[3] (TWh) projection of the original point-in-time load. GMP's actual load was within 99.99% of this figure, therefore there was no need to adjust the Tier III goal to meet actual consumption.

The majority of the program offerings relied on the measure characterizations developed in the Tier III TRM. These measure characteristics were developed with input of the DUs. These measures are considered prescriptive in nature using values established through the TAG process to determine the expected savings for the installed measures. However, the majority of GMP's overall savings are a result of several large custom projects that were pre-screened through the PSD prior to implementation.

Table 2- Summary of GMP Results

	Lifetime MWHe* Claimed	Percentage of Goal	Adjusted Lifetime MWHe*	Adjusted Percentage of Goal
GMP Tier III Claim	131,736	156.83%	129,932	154.70%

*MWhe = Megawatt hour equivalent

The next page provided a more detailed breakdown of GMPs Tier III Savings claim and all recommended adjustments.

[3] A terawatt hour is equal to 1 million MWhs.

Table 3- Detailed GMP Program Results

Measure	Units	Lifetime MWHe* Claimed	Percentage of Goal	Adjusted Lifetime MWHe*	Adjusted Percentage of Goal
Cold Climate Heat Pumps					
Pre-2017	918	19,887	23.68%	19,887	23.68%
Heat Pumps (shared)	364	7,467	8.89%	7,467	8.89%
Heat Pump Referred (Shared)	188	3,482	4.15%	1,890	2.25%
Heat Pump Water Heater					
Pre-2017	290	2,396	2.85%	2,396	2.85%
Heat Pump Water Heater (Shared)	91	675	0.80%	675	0.80%
Electric Vehicles					
Pre-2017 GMP Employee	10	168	0.20%	168	0.20%
2017 GMP Employee	7	157	0.19%	157	0.19%
Nissan LEAF Promotion	110	3,292	3.92%	3,292	3.92%
EV Charging Stations					
Pre-2017 EV Purchase Program		63	0.08%	63	0.08%
2017 EV Purchase Program	36	972	1.16%	972	1.16%
EV Charging Program (ports)	91	97	0.12%	97	0.12%
Smart Thermostat	42	197	0.23%	197	0.23%
Residential Battery Storage	90	212	0.25%	0	0.00%
Custom Project A	1	57,890	68.92%	57,890	68.92%
Custom Project B	1	11,118	13.24%	11,118	13.24%
Custom Project C	1	21,880	26.05%	21,880	26.05%
Custom Project D	1	1,783	2.12%	1,783	2.12%
Total		131,736	156.83%	129,932	154.70%

*MWhe = Megawatt hour equivalent

Cold Climate Heat Pumps and Heat Pump Water Heaters

Through the MOU, GMP and EVT reached an agreement upon how to share MMBtu savings for programs already in existence and operated by EVT. The two shared measures were for Cold Climate Heat Pumps (ccHP) and Heat Pump Water Heaters (HPWH). The goal of the MOU was to create an agreed upon methodology that would determine the savings split. Due to GMPs lease programs for ccHPs and HPWH that existed prior to 2017 they could claim up to 100% of the MMBtu fossil fuel savings for the measures that predated EVTs involvement in that particular segment of the thermal savings opportunity.

The pre-2017 measures have been split out from those installed in 2017 in the above table for both these categories. There is one area of questionable attribution where GMP is claiming 50% of the potential savings for 188 ccHP units that did not go through their lease program, rather the customers decided to purchase and install the units themselves. There are 86 units identified as belonging to this type of savings for which there is no documentation other than two numbers included in the spreadsheet. Therefore, the PSD adjusted the total number of units down by 86 to 102 to include only the units for which there are some records provided indicating GMPs involvement.

While the PSD accepted the agreed upon split contained in the aforementioned MOU during verification of these savings, PSD recommends a review of the attribution of savings from these units in regards to the amount of resources/effort put into implementation of the measures.

Electric Vehicles

GMP offered an employee incentive program in 2017 and in prior years. A total of 17 GMP employees participated in this program. It is the Department's understanding that this program included a level 2 charger installation that the PSD has included in the EV charging station numbers.

In 2017 GMP partnered with Nissan North America and Freedom Nissan in South Burlington to bring an electric vehicle promotion that was happening in other areas of the country to Vermont. This promotion offered a $10,000 discount on the All-Electric Nissan Leaf. The TAG group established a value for all-electric and plug-in electric vehicles and the numbers presented by GMP are consistent with these values. The 2017 and pre-2017 Employee Incentive programs represent a mix of all-electric and plug-in vehicles.

While GMP offered no direct incentive to customers the fact they were pivotal in this program being launched in Vermont through their approach to Nissan as well as a GMP-funded media campaign resulted in this being a very successful measure. However due to the success of this program in Vermont should Nissan or another manufacturer run this type of program in the future, the PSD will be examining whether only providing advertisement for the program is sufficient to be able to claim savings without some other form of incentive being included.

EV Charging Stations

GMP offered an eCharger program to customers. Customers purchasing a qualifying electric vehicle were provided a Level 2 (L2) home charging station at no cost, as an incentive to promote electric vehicle ownership. However, installation costs of the charger were not included as part of the incentive and had to be paid for by the participating customer. As a result, not all customers participated in the free charger program. In addition to these chargers, L2 chargers were provided for vehicles that did not go through either the Nissan Leaf program or the GMP employee incentive program. GMP claimed full credit for these non-program vehicles as a result of providing the chargers.

Smart Thermostats

This is a measure that was quantified through the Tier III TAG process. GMP installed 42 of these units and claimed the appropriate amount of savings as per the TRM and the 2017 Tier III Planning tool outputs.

Battery Storage

GMP is offering residential battery storage and claiming Tier III credit for reducing fossil fuel electrical generation during peak times. The PSD has reviewed the GMP Battery Storage program and has identified potential issues that may disallow these savings from being claimed because the fossil fueled electrical generation being avoided by utilizing the stored electrical capacity of the batteries would not take place within the DU's territory, nor would it likely take place within Vermont. However, the PSD does recognize that battery storage is a technology that is explicitly mentioned in statute as an example of potential energy transformation projects.

On Page 30 of the Docket 8550 Order, the PUC addressed the issue of trading Tier III credits between the DUs and determined through a review of the applicable statute that trading did not meet the intent of the statute:

> Allowing for the trading of Tier III savings credits would, in essence, allow a DU to reach Tier III compliance by using savings associated with the fossil-fuel savings accrued in another service territory. We find that this result would run counter to the legislative intent expressed in the clear language of Section 8005(a)(3)(A).

If trading was disallowed due to the fossil fuel savings being accrued in another service territory the PSD interprets that claiming fossil fuel savings accrued in another state would be similarly disallowed.

The PSD requests the PUC offer clear guidance on what circumstances battery storage should be considered an eligible Tier III measure and how this aligns with their statutory interpretation of whether energy transformation projects need to directly serve customers in the DU's territory and whether eligible storage can produce fossil fuel and related emissions reductions that may be one or more steps removed from the direct use of the customer.

The PSD recommends that this portion of GMPs saving claim be disallowed for the 2017 claim until the PUC provides clarification on whether this measure and resulting savings are allowable under Tier III. If the PUC were to determine this is an allowable use of battery storage the Tier III credit should be reinstated in the following years claim.

Custom Projects

GMP undertook 4 custom projects in 2017. They requested PSD involvement from the inception of these projects and the PSD reviewed all relevant information, including fuel delivery records and hours of operation. The PSD suggested some changes to the assumptions and methodologies, and ultimately reached agreement with GMP on what both parties deemed to be a reasonable and conservative estimate of the overall project savings. The PSD reviewed the files provided with GMPs Tier III filing for consistency with what had previously been reviewed and found the savings to be consistent.

Burlington Electric Department

2017 Tier III Savings Verification Report

Burlington Electric Department 2017 Tier III Savings Verification Report

As per the Burlington Electric Department (BED) Annual Plan, filed November 1, 2016, the 2.0% RES Tier III savings target for 2017 was 7,149 MWh, based on projected sales of 357,437 MWh. As reported in BED's 2017 Tier III Program results, however, the actual retail sales of 332,091 MWh for 2017 resulted in a lower Tier III target of 6,642 MWh. BED has claimed 1,274.5 MWh equivalent savings through its Tier III programs as detailed below. The Department has verified these savings by reviewing project documentation, confirming the correct application of TRM savings algorithms, and spot checking installations of EV charging stations, and EV proof of purchase.

As a utility with 100% renewable generation, there is no penalty applied to their savings as a result of additional electrical loads resulting from active measures that electrify previously thermal loads. Although the Tier III savings reported for 2017 fall well short of the target, the Department understands that BED will satisfy its Tier III obligations by retiring Tier II Renewable Energy Credits (RECs). These Tier II conversions will be reported with the RES report due in August, 2018.

Table 4- Detailed BED Program Results

Measure	Count	Lifetime MWHe* Claimed	Percentage of Goal	Adjusted Lifetime MWHe*	Adjusted Percentage of Goal
Solar Tier II Credits (pre-2017)	1	22.0	0.3%	22.0	0.3%
Cold Climate Heat Pump	1	37.0	0.6%	37.0	0.6%
EV Charging Stations	7	37.3	0.6%	37.3	0.6%
All Electric Vehicles	33	1,085.7	16.3%	1,085.7	16.3%
Plug-in Hybrid Vehicles	5	92.6	1.4%	92.6	1.4%
Total Claimed Savings		1,274.5	19.2%	1,274.5	19.2%
2017 Target		6,642	100.0%	6,642	100.0%
Shortfall		5,367.5	80.8%	5,367.5	80.8%

*MWhe = Megawatt hour equivalent

The above table shows the various Tier III measures implemented by BED for 2017. None of the savings claimed by BED in 2017 received adjustments.

BED utilized social media promotions, e-newsletters and press releases with links to its website in order to promote its Tier III offerings, particularly its EV programs.

Cold Climate Heat Pumps

BED provided an incentive for one cold climate heat pump installation in 2017. Because most of BED's service territory is served by Vermont Gas Systems (VGS), and regulated fuels are exempt from Tier III, BED cannot claim Tier III credit for installing ccHPs for the vast majority of their customers that reside within the VGS footprint. The one project that was incentivized was for a detached building that was formerly heated with propane.

Electric Vehicle Charging Stations

BED paid the full cost to install seven EV charging stations in various locations around the city. BED contracts with Chargepoint to manage the administrative details of the charging stations' operation including billing of EV customers. The value of these EV charging stations was established through the Tier III TRM process and is considered prescriptive in nature. The savings for this measure were calculated using the metered kWh output of each charging station.

Electric Vehicles

BED offered incentives for the purchase or lease of EVs and plug-in hybrid electric vehicles (PHEVs) in 2017. Nissan also ran a promotion that heavily discounted the 2017 Nissan Leaf, offering a $10,000 discount. BED and other DUs partnered with the South Burlington Dealership that was running the promotion in Vermont to advertise this discount to its members and offered an additional $1,200 incentive to BED customers that purchased the car. A similar incentive was offered for other electric vehicles, and a $600 incentive was offered for PHEV's purchased or leased by BED customers. The savings for these vehicles were determined using the Tier III TRM algorithm.

Additional Notes

BED will rely on conversion of Tier II RECs to fulfill the majority of its Tier III requirements. Although this is an acceptable way of complying, the Department recommends, and BED has already taken steps to achieve, diversification of its Tier III portfolio of measures. BED's 2018 program includes incentives for electric bicycles, electric buses and a Passivhaus pilot program. BED has also proposed a reverse auction for Tier III energy transformation projects that is under review by the Department.

Washington Electric Cooperative

2017 Tier III Savings Verification Report

Washington Electric Cooperative 2017 Tier III Savings Verification Report

As per the Washington Electric Cooperative (WEC) Annual Plan, filed November 1, 2016, the 2.0% savings target for 2017 was 1,394 MWh. Actual retail sales of 68,821,561 kWh resulted in a lower target of 1,376 MWh.

As a utility that is considered 100% renewable, there is no adjustment applied to WEC's savings as a result of additional electrical loads resulting from active measures that electrify previous thermal loads. Additionally, as WEC is satisfying their Tier II obligations by retiring their Tier II RECs they may not have additional Tier II RECs to convert to Tier III to help meet any outstanding obligations.

Table 5 - Detailed WEC Program Results

Measure	Count	Lifetime MWHe* Claimed	Percentage of Goal	Adjusted Lifetime MWHe*	Adjusted Percentage of Goal
Heat Pump Water Heater (Shared)	19	89	6.5%	89	6.5%
Weatherization (shared)	15	257	18.7%	257	18.7%
Pellet Boiler (shared)	2	119	8.6%	119	8.6%
Heat Pump (Shared)	3	47	3.4%	47	3.4%
Charging Stations	5	122	8.9%	122	8.9%
Nissan Leaf	5	192	14.0%	192	14.0%
CAPSTONE (LI Weatherization)		580	42.2%	0	0.0%
Total		1406	102.2%	826	60.0%

*MWhe = Megawatt hour equivalent

The above table shows the various measures implemented by WEC through either a shared savings MOU or through measures implemented by WEC directly or through partner organizations. The majority of the savings claimed by WEC in 2017 received no recommended adjustments; however, the PSD has identified potential issues relating to WEC's claim of savings through the CAPSTONE Community Action (CCA) low-income weatherization program for 2017. While the Department fully supports WEC's efforts to target low income weatherization, the PSD believes that the process undertaken to date does not meet the statutory requirements. This issue is discussed in detail in the Low Income Weatherization section.

WEC utilized its "Button Up" program along with reaching out to members through their newsletter in order to promote their Tier III offerings.

Cold Climate Heat Pumps and Heat Pump Water Heaters

Through a MOU, WEC and EVT reached an agreement upon how to share MMBtu savings for programs already in existence and operated by EVT. The goal of the MOU was to create an agreed upon methodology that would determine the savings split relative to the number of additional or incremental units that enter the program through WECs involvement. The measures were (as shown in the table above) HPWHs, Weatherization (WX), Wood Pellet Boilers (PB) and ccHPs.

The central issue with the shared savings was to reasonably determine the level of incrementalism to the existing program that resulted through WEC's activities in promoting the various technologies to its members as well as offering bill credits and direct incentives to the members who purchase/install the aforementioned measures. Without an in-depth market analysis of WEC's service territory to determine the opportunity for the measures previous to their intervention the PSD believes that the MOU is adequate.

EV Charging Stations

WEC used funding secured through Vermont Low Income Trust for Electricity in order to install EV charging stations. The value of these EV charging stations was established through the Tier III TRM process and is considered prescriptive in nature. As no other entity has a program to install EV charging stations in WEC territory there is no need to show this program is incremental in nature.

Electric Vehicles

Nissan ran a promotion that provided a $10,000 discount for a 2017 Nissan Leaf electric vehicle. WEC and other DUs partnered with the South Burlington Dealership that was running the promotion in Vermont to advertise this incentive to its members and offered an additional bill credit to its members that purchased the electric vehicle. The savings for these vehicles were determined through the Tier III TRM. WEC's claimed savings were consistent with the defined savings in the TRM.

Low-Income Weatherization

A key requirement of the RES program described in section (3)(E)(ii) states:

> *An energy transformation project may provide incremental support to a program authorized under Vermont statute that meets the eligibility criteria of this subdivision (3) but may take credit only for the additional amount of service supported and shall not take credit for that program's regularly budgeted or approved investments.*

Based upon the PSDs understanding of the savings WEC is claiming, it appears that no additional units were weatherized within WEC territory in 2017 that would result in WECs ability to claim 580 MWh. All units that were weatherized utilized CCA's regular budget and, to the best understanding of the PSD, there has yet to be a financial transaction between WEC and CCA related to the 2017 savings. This further highlights that there could be no additionality as CCA had no additional funds to complete any additional low-income weatherization projects beyond what they were already budgeted to achieve in 2017. In discussions with WEC, the Department understands that it intends to provide a check to CCA that CCA could then use to provide additional weatherization efforts. The Department's primary concern is regarding the timing of WEC's actions – as any payment to CCA would take place after 2017, CCA did not undertake any additional weatherization work in 2017.

The PSD greatly appreciates WEC's efforts to target low-income households in their territory through a partnership with CCA and would like to continue discussions to find a solution for claiming energy savings for incremental low-income weatherization projects completed in their territory going forward.

The PSD recommends that the WEC low-income weatherization savings be disallowed unless WEC can provide additional information regarding why these savings should be allowed and how they meet the statutory requirements.

Vermont Electric Cooperative
2017 Tier III Savings Verification Report

Vermont Electric Cooperative 2017 Tier III Savings Verification Report

The VEC Tier III Annual Plan, filed November 15, 2016 estimated the 2.0% savings target for 2017 at 8,926 MWh. Actual retail sales of 444,169,071 kWh for 2017 resulted in a lower target of 8,883 MWh. VEC is subject to a 31.0% adjustment applied to their savings as a result of the fossil fuel-generated component of additional electrical loads resulting from active measures that electrify previously thermal loads. As detailed below, VEC claimed Tier III savings of 9,687 MWh for 2017, which surpasses the target by 804 MWh. The PSD has verified all 9,687 MWh claimed savings.

Table 6 - Detailed VEC Program Results

Measure	Count	Lifetime MWHe* Claimed	Percentage of Goal	Adjusted Lifetime MWHe*	Adjusted Percentage of Goal
Cold Climate Heat Pump (Shared)	272	1,980	22.3%	1,980	22.3%
Electric Vehicles	43	654	7.4%	663	7.5%
Clean Air Program (Shared)	5	7,054	79.4%	7,120	80.2%
Total Claimed Savings		9,687	109.0%	9,763	109.9%
2017 Target		8,883		8,883	
Savings in Excess of Goal		804	9.0%	879	9.9%

*MWhe = Megawatt hour equivalent

The above table shows the various measures implemented by VEC through either a shared savings MOU with EVT, or through measures implemented by VEC directly or through partner organizations. The majority of the savings claimed by VEC in 2017 received no adjustments. However the PSD has identified the following issues relating to their claiming of savings:

- The "VEC Tier III Compliance Report 2017" claims 654 MWh savings from the EV program, but in the supporting spreadsheet, the savings total 663 MWh. The PSD verified the latter savings.
- The conversion factor from MMBtu to MWh used for CAP projects was different from the 9.232 MMBtu/MWh conversion factor for 2017 as published by the EIA. CAP project savings were adjusted accordingly.

VEC utilized a variety of media to promote its Tier III initiatives, including:

- Social media postings
- Bill stuffers in customer mailings
- Press releases

Cold Climate Heat Pumps

VEC offered its customers a $150 incentive on top of the incentives already offered by EVT for the purchase and installation of ccHPs. The Tier III savings for this measure represents the fossil fuel heating load that is displaced by the ccHP. The calculation of savings for ccHPs relies on the measure characterization developed for the Tier III TRM. These measure characteristics were developed with the input of the DUs. These measures are considered prescriptive in nature using average values to determine the "to be expected" average savings for the installed measures.

Through a MOU, VEC and EVT reached an agreement upon how to share MMBtu savings for the ccHP program already in existence and operated by EVT. The MOU created an agreed upon methodology to determine the savings split relative to the number of additional or incremental units sold in VEC territory as a result of VEC's involvement.

Without an in-depth market analysis of VECs territory to determine the uplift to the ccHP program as a result of VEC's intervention, the PSD believes that the MOU is adequate to address the issue of shared savings for the ccHP measure.

Electric Vehicles

VEC offered incentives for the purchase or lease of all-electric vehicles (EVs) and PHEVs. VEC and other DUs partnered with a South Burlington Nissan Dealership that was offering a $10,000 discount on the Nissan Leaf EV to advertise its EV and PHEV incentives to its members. The savings for these vehicles were determined through the Tier III TRM.

Clean Air Program

VEC undertook 5 custom projects under its Clean Air Program in 2017. VEC requested PSD review of these projects from inception. The PSD reviewed all relevant information, including fuel delivery records, load profiles, project costs and savings assumptions. Where necessary, PSD staff suggested changes to the assumptions and methodologies. VEC accepted these changes or negotiated with the PSD to reach what both parties deemed to be a reasonable and conservative estimate of the overall project savings. The PSD reviewed the files provided with VECs Tier III filing for consistency with what had previously been reviewed and found no need to alter savings from these projects.

General RES Tier III Program Recommendations

The PSD has the following general RES Tier III program recommendations for consideration by the PUC and stakeholders.

Conversion Methodology Update

The PSD recommends a review of the calculation for MMBtu conversions for passive thermal measures (insulation and air sealing) and potentially thermal to thermal fuel conversions (i.e. heating fuel to wood pellet). Instead of converting these measures using the EIA heat rate for electrical generation the PSD recommends using a direct MMBtu to MWh conversion which would increase the Tier III value for these measures, making them more attractive and cost-effective for DUs to promote. The PSD will present this issue to the Tier III TAG for discussion. Any changes to this methodology will likely need to be addressed in the 2019 legislative session as the specifics on the conversion methodology is contained in statute.

Energy Storage Clarification

The PUC should initiate a workshop process to align language within the statute and the PUC Docket 8550 Order in relation to how battery storage can be an allowable Tier III measure and provide clarification regarding where they deem the sought after fossil fuel savings should take place, the customer level (burned on site), the DU level (burned to generate the initial power supplied to the customer) or the regional level (generator located outside the DU territory and potential outside of Vermont).

Reporting

The PSD requests that the PUC order the DUs to provide the following in their future Tier III savings claim reports:

- A copy of any MOU regarding shared savings.
- An aggregate measure level cost and costs related to the avoided ACP.
- The number and types of measures implemented.
- Inclusion of the savings calculator (for applicable measures) to demonstrate how savings claim numbers were determined.
- Calculations with assumptions and clearly labeled variables with the values used for each to demonstrate how savings claim numbers were arrived at and to enable evaluators to easily discern the accuracy of those savings claims.
- Description of how Tier III programs are promoted to customers with representative examples.

Other

Where possible the PSD should be allowed to pre-review custom projects to ensure compliance with both the statutory language and the Docket 8550 Order. (This also helps to speed the review of these projects during verification.)

Any agreements between customers and the DUs should include language that would allow the DU to share specific customer information with the PSD for the purposes of verification.

The conversion factor from MMBtu to MWh in the relevant Tier III TRM measure characterizations should be updated annually to match the factor published by the US Energy Information Agency (EIA). However, the PSD will also discuss with DUs whether it is reasonable to seek statutory change to allow the use of the ISO New England factor rather than the national factor represented by an EIA number.